AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-3 (Canceled):

Claim 4 (Currently Amended): A semiconductor device, comprising:

a wiring structure comprising

a first wiring layer formed on a surface of a semiconductor region forming an active component or a passive component, and

a second wiring layer formed in an upper layer of the first wiring layer,

a first insulating structure insulating the semiconductor region and the first wiring layer,

a second insulating structure insulating an interlayer formed of the first wiring layer,

a third insulating structure contained in a structure electrically insulating the first wiring layer and the second wiring layer and forming connecting holes electrically connecting the first wiring layer and the second wiring layer, and

a fourth insulating structure insulating an interlayer formed with the second wiring layer, and

comprising in one of the second, third and fourth insulating structures ~~the~~ an insulating material ~~according to claims 1 or 2~~, said insulating material comprising:

a borazine-silicon polymer obtained by hydrosilylation polymerization of

a borazine compound represented by chemical formula 1 possessing an alkyl group for a nitrogen atom and an alkyl group-substituted triple bond-containing organic group for a

boron atom in a borazine ring, in which the boron atom has an acetylene group directly linked thereto or R_2 and an acetylene group jointly linked thereto; and

a silicon compound represented by chemical formula 2 possessing at least two hydrosilyl groups or a cyclic silicon compound represented by chemical formula 3 possessing at least two hydrosilyl groups; in which:

R_1 denotes an alkyl group,

R_2 denotes -(CH_2)-m (m denoting an integer of 0 or more),

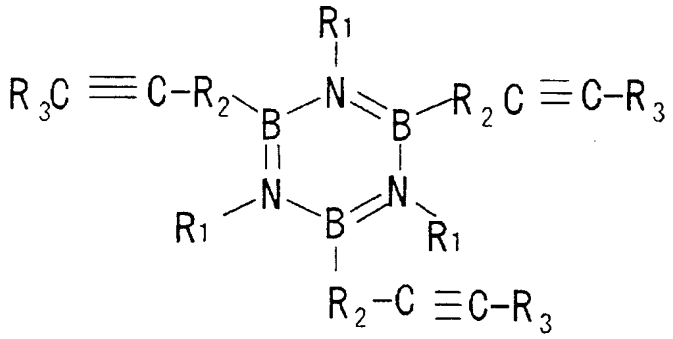
R_3 denotes an alkyl group linked to an acetylene group,

R_4 and R_5 each denote one identical or different monovalent group selected from the group consisting of an alkyl group, an aryl group, an aralkyl group and a hydrogen atom,

R_6 denotes a divalent aromatic group optionally possessing a substituent group, an oxygen atom, a siloxane or an oxypoly(dimethyl siloxy) group, and

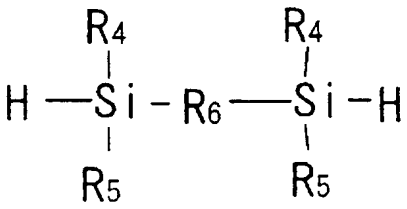
R_7 denotes an alkyl group, an aryl group or an aralkyl group;

wherein chemical formula 1 is as follows



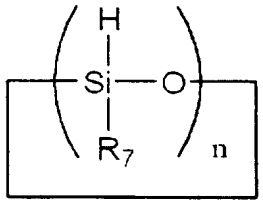
;

wherein chemical formula 2 is as follows



; and

wherein chemical formula 3 is as follows



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Claim 5 (Currently Amended): An insulating layer, comprising:

~~the~~ an insulating material ~~of Claim 1~~;

wherein said insulating layer is between electric wirings; and

wherein said insulating material comprises:

a borazine-silicon polymer obtained by hydrosilylation polymerization of

a borazine compound represented by chemical formula 1 possessing an alkyl group for a nitrogen atom and an alkyl group-substituted triple bond-containing organic group for a boron atom in a borazine ring, in which the boron atom has an acetylene group directly linked thereto or R_2 and an acetylene group jointly linked thereto; and

a silicon compound represented by chemical formula 2 possessing at least two hydrosilyl groups or a cyclic silicon compound represented by chemical formula 3 possessing at least two hydrosilyl groups; in which:

R_1 denotes an alkyl group,

R_2 denotes -(CH_2)-m (m denoting an integer of 0 or more),

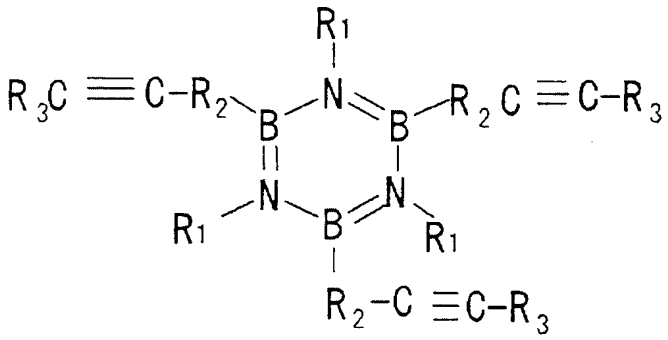
R_3 denotes an alkyl group linked to an acetylene group,

R_4 and R_5 each denote one identical or different monovalent group selected from the group consisting of an alkyl group, an aryl group, an aralkyl group and a hydrogen atom,

R_6 denotes a divalent aromatic group optionally possessing a substituent group, an oxygen atom, a siloxane or an oxypoly(dimethyl siloxy) group, and

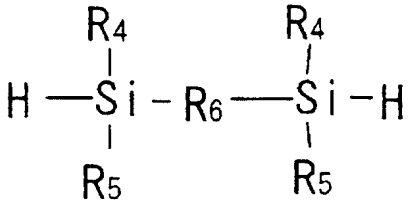
R_7 denotes an alkyl group, an aryl group or an aralkyl group;

wherein chemical formula 1 is as follows



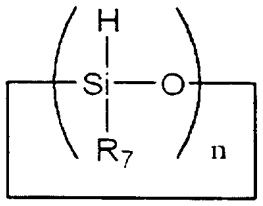
;

wherein chemical formula 2 is as follows



; and

wherein chemical formula 3 is as follows



Claim 6 (Currently Amended): An insulating layer, comprising:

~~the~~ an insulating material ~~of Claim 2~~;

wherein said insulating layer is between electric wirings; and

wherein said insulating material comprises

a borazine-silicon polymer obtained by hydrosilylation polymerization of

a mixture of a first borazine compound represented by chemical formula 4 and a second borazine compound represented by chemical formula 5, the first borazine compound possessing an alkyl group for a nitrogen atom and an alkyl group-substituted triple bond-containing organic group for a boron atom in a borazine ring, in which the boron atom has an acetylene group directly linked thereto or has linked thereto R2 to which an acetylene group has been linked, the second boranzine compound possessing an alkyl group for a nitrogen atom and a triple bond-containing organic group not substituted by an alkyl group for a boron atom in a borazine ring, wherein the boron atom has an acetylene group directly linked thereto or has linked thereto R9 to which an acetylene group has been linked, the second borazine compound (formula 5) having a mixing ratio of : 90:10 to 0:100 to the first borazine compound (formula 4); and

a silicon compound represented by chemical formula 6 possessing at least two hydrosilyl groups or a cyclic silicon compound represented by chemical formula 7 possessing at least two hydrosilyl groups, in which:

R_1 denotes an alkyl group,

R_2 denotes -(CH_2)-m (m denoting an integer of 0 or more),

R_3 denotes an alkyl group linked to an acetylene group,

R_4 and R_5 each denote one identical or different univalent group selected from the group consisting of an alkyl group, an aryl group, an aralkyl group and a hydrogen atom,

R_6 denotes a divalent aromatic group optionally possessing a substituent group, an oxygen atom, a siloxane or an oxypoly(dimethyl siloxy) group,

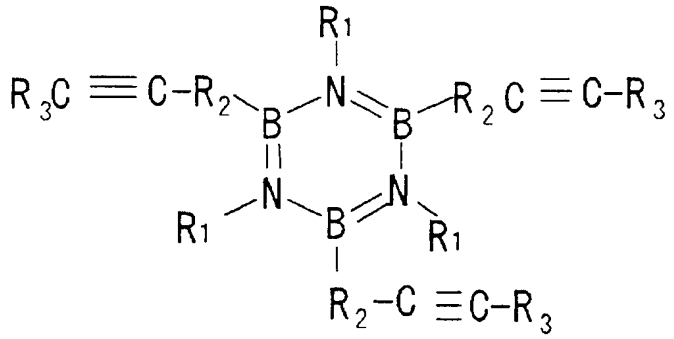
R_7 denotes an alkyl group, an aryl group or an aralkyl group,

R_8 denotes an alkyl group,

R_9 denotes a methylene group, and

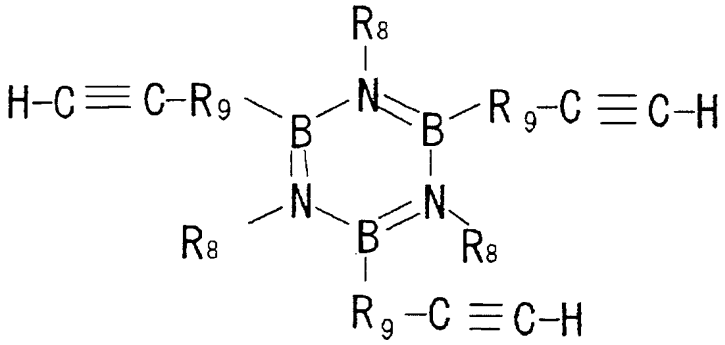
n denotes an integer of 3 or more;

wherein chemical formula 4 is as follows



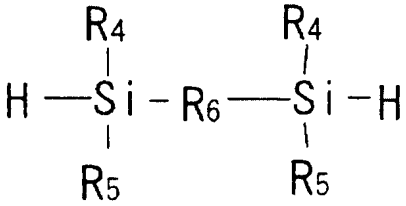
;

wherein chemical formula 5 is as follows



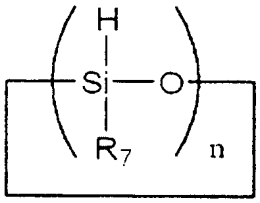
;

wherein chemical formula 6 is as follows



; and

wherein chemical formula 7 is as follows



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Claim 7 (Currently Amended): An ultra large scale integrated circuit (ULSI), comprising:

an USLI multilayer interconnection; and

an insulating layer between electric wirings, said insulating layer comprising ~~the~~ an insulating material ~~of Claim 1~~ which comprises

a borazine-silicon polymer obtained by hydrosilylation polymerization of

a borazine compound represented by chemical formula 1 possessing an alkyl group for a nitrogen atom and an alkyl group-substituted triple bond-containing organic group for a boron atom in a borazine ring, in which the boron atom has an acetylene group directly linked thereto or R_2 and an acetylene group jointly linked thereto; and

a silicon compound represented by chemical formula 2 possessing at least two hydrosilyl groups or a cyclic silicon compound represented by chemical formula 3 possessing at least two hydrosilyl groups; in which:

R_1 denotes an alkyl group,

R_2 denotes -(CH_2)-m (m denoting an integer of 0 or more),

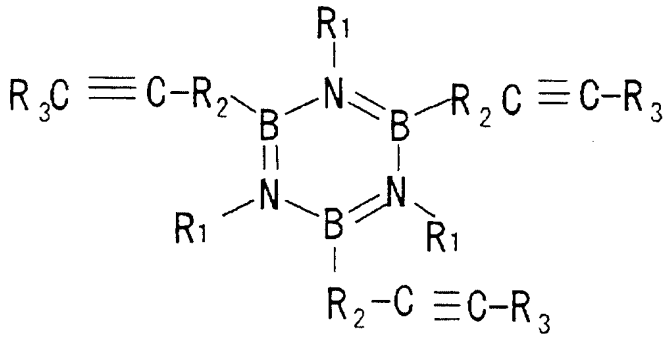
R_3 denotes an alkyl group linked to an acetylene group,

R_4 and R_5 each denote one identical or different monovalent group selected from the group consisting of an alkyl group, an aryl group, an aralkyl group and a hydrogen atom,

R_6 denotes a divalent aromatic group optionally possessing a substituent group, an oxygen atom, a siloxane or an oxypoly(dimethyl siloxy) group, and

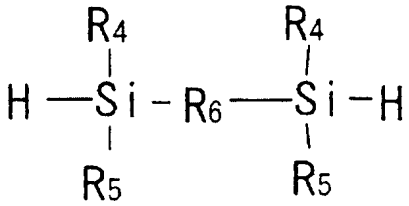
R_7 denotes an alkyl group, an aryl group or an aralkyl group;

wherein chemical formula 1 is as follows



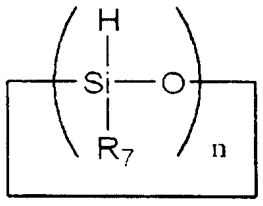
;

wherein chemical formula 2 is as follows



; and

wherein chemical formula 3 is as follows



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Claim 8 (Currently Amended): An ultra large scale integrated circuit (ULSI), comprising:

an USLI multilayer interconnection; and

an insulating layer between electric wirings, said insulating layer comprising the insulating material ~~of Claim 2~~;

wherein said insulating material comprises

a borazine-silicon polymer obtained by hydrosilylation polymerization of

a mixture of a first borazine compound represented by chemical formula 4 and a second borazine compound represented by chemical formula 5, the first borazine compound possessing an alkyl group for a nitrogen atom and an alkyl group-substituted triple bond-containing organic group for a boron atom in a borazine ring, in which the boron atom has an acetylene group directly linked thereto or has linked thereto R2 to which an acetylene group has been linked, the second boranzine compound possessing an alkyl group for a nitrogen atom and a triple bond-containing organic group not substituted by an alkyl group for a boron atom in a borazine ring, wherein the boron atom has an acetylene group directly linked thereto or has linked thereto R9 to which an acetylene group has been linked, the second borazine compound (formula 5) having a mixing ratio of : 90:10 to 0:100 to the first borazine compound (formula 4); and

a silicon compound represented by chemical formula 6 possessing at least two hydrosilyl groups or a cyclic silicon compound represented by chemical formula 7 possessing at least two hydrosilyl groups, in which:

R_1 denotes an alkyl group,

R_2 denotes -(CH_2)-m (m denoting an integer of 0 or more),

R_3 denotes an alkyl group linked to an acetylene group,

R_4 and R_5 each denote one identical or different univalent group selected from the group consisting of an alkyl group, an aryl group, an aralkyl group and a hydrogen atom,

R_6 denotes a divalent aromatic group optionally possessing a substituent group, an oxygen atom, a siloxane or an oxypoly(dimethyl siloxy) group,

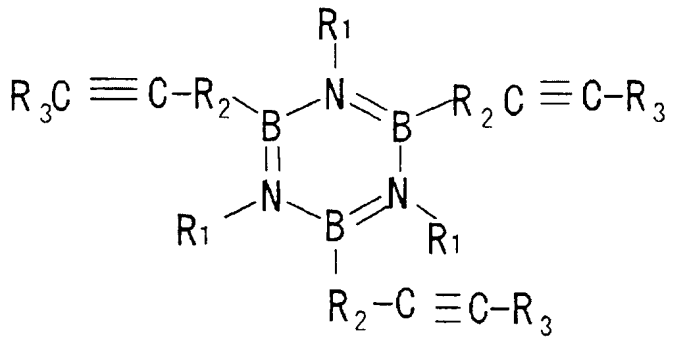
R_7 denotes an alkyl group, an aryl group or an aralkyl group,

R_8 denotes an alkyl group,

R_9 denotes a methylene group, and

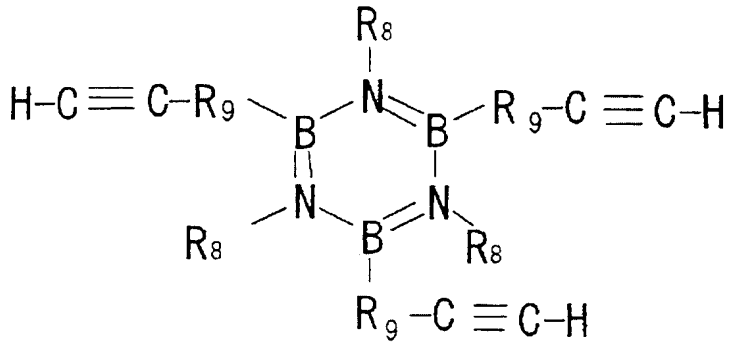
n denotes an integer of 3 or more;

wherein chemical formula 4 is as follows



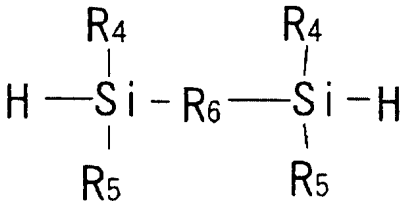
;

wherein chemical formula 5 is as follows



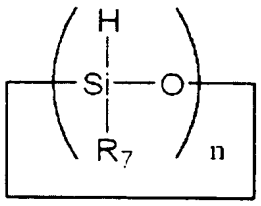
;

wherein chemical formula 6 is as follows



; and

wherein chemical formula 7 is as follows



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Claim 9 (New): A semiconductor device, comprising:

a wiring structure comprising

a first wiring layer formed on a surface of a semiconductor region forming an active component or a passive component, and

a second wiring layer formed in an upper layer of the first wiring layer,

a first insulating structure insulating the semiconductor region and the first wiring layer,

a second insulating structure insulating an interlayer formed of the first wiring layer,

a third insulating structure contained in a structure electrically insulating the first wiring layer and the second wiring layer and forming connecting holes electrically connecting the first wiring layer and the second wiring layer, and

a fourth insulating structure insulating an interlayer formed with the second wiring layer, and

comprising in one of the second, third and fourth insulating structures an insulating material, said insulating material comprising:

a borazine-silicon polymer obtained by hydrosilylation polymerization of

a mixture of a first borazine compound represented by chemical formula 4 and a second borazine compound represented by chemical formula 5, the first borazine compound possessing an alkyl group for a nitrogen atom and an alkyl group-substituted triple bond-containing organic group for a boron atom in a borazine ring, in which the boron atom has an acetylene group directly linked thereto or has linked thereto R2 to which an acetylene group has been linked, the second boranzine compound possessing an alkyl group for a nitrogen atom and a triple bond-containing organic group not substituted by an alkyl group for a boron atom in a borazine ring, wherein the boron atom has an acetylene group directly linked thereto or has linked thereto R9 to which an acetylene group has been linked, the second borazine compound (formula 5) having a mixing ratio of : 90:10 to 0:100 to the first borazine compound (formula 4); and

a silicon compound represented by chemical formula 6 possessing at least two hydrosilyl groups or a cyclic silicon compound represented by chemical formula 7 possessing at least two hydrosilyl groups, in which:

R_1 denotes an alkyl group,

R_2 denotes -(CH_2)-m (m denoting an integer of 0 or more),

R_3 denotes an alkyl group linked to an acetylene group,

R_4 and R_5 each denote one identical or different univalent group selected from the group consisting of an alkyl group, an aryl group, an aralkyl group and a hydrogen atom,

R_6 denotes a divalent aromatic group optionally possessing a substituent group, an oxygen atom, a siloxane or an oxypoly(dimethyl siloxy) group,

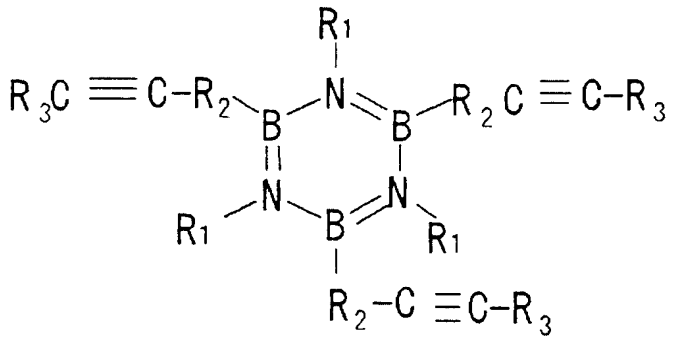
R_7 denotes an alkyl group, an aryl group or an aralkyl group,

R_8 denotes an alkyl group,

R_9 denotes a methylene group, and

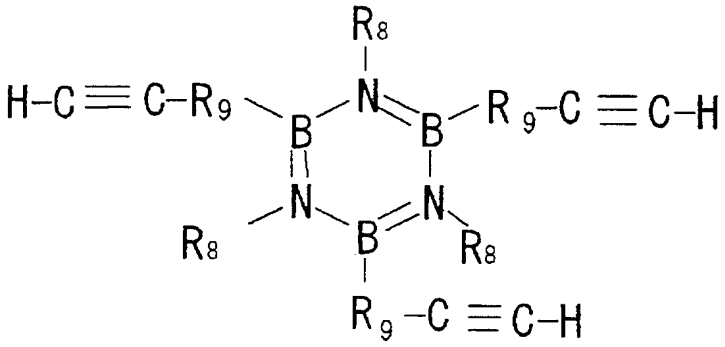
n denotes an integer of 3 or more;

wherein chemical formula 4 is as follows



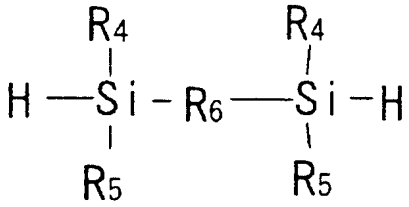
;

wherein chemical formula 5 is as follows



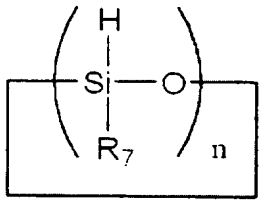
;

wherein chemical formula 6 is as follows



; and

wherein chemical formula 7 is as follows



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